ENVIRONMENTAL CHEMISTS

Date of Report: 11/12/97 Date Received: 10/30/97

Project: Metro Self Monitor, PO# M58927

Date Samples Extracted: 11/10/97
Date Extracts Analyzed: 11/11/97

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLE FOR CHROMIUM, COPPER, NICKEL, ZINC USING METHOD 6010

Samples Processed Using Method 3005A

Results Reported as mg/L (ppm)

Sample ID	Chromium	Copper	<u>Nickel</u>	<u>Zinc</u>
M58927	0.77	0.82	1.2	0.25
Method Blank	<0.05	< 0.05	<0.05	< 0.05

ENVIRONMENTAL CHEMISTS

Date of Report: 11/12/97 Date Received: 10/30/97

Project: Metro Self Monitor, PO# M58927

QUALITY ASSURANCE RESULTS FOR TOTAL METALS BY INDUCTIVELY COUPLED PLASMA (ICP) (METHOD 6010)

Laboratory Code: 711017-01 (Duplicate)

Analyte:	Reporting Units	Sample Result	 olicate	Relative Percent Difference	Acceptance <u>Criteria</u>
Chromium	mg/L (ppm)	0.31	0.29	7	0-20
Copper	mg/L (ppm)	0.30	0.28	7	0-20
Nickel	mg/L (ppm)	0.34	0.28	19	0-20
Zinc	mg/L (ppm)	0.09	0.11	20a	0-20

Laboratory Code: 711017-01 (Matrix Spike)

	Reporting	Spike	Sample	% F	Recovery	Acceptance	Relative Percent
Analyte:	Units	Level	Result	MS	MSD	Criteria	Difference
Chromium	mg/L (ppm)	5	0.31	100	105	80-120	5
Copper	mg/L (ppm)	5	0.30	83	93	80-120	11
Nickel	mg/L (ppm)	10	0.34	96	111	80-120	14
Zinc	mg/L (ppm)	5	0.09	105	120	80-120	13

Laboratory Code: LCS

Analyte:	Reporting Units	Spike Level	% R MS	ecovery MSD	Acceptance Criteria	Relative Percent Difference
Chromium	mg/L (ppm)	5	111	117	80-120	5
Copper	mg/L (ppm)	5	111	118	80-120	6
Nickel	mg/L (ppm)	10	114	117	80-120	3
Zinc	mg/L (ppm)	5	112	118	80-120	5

a - The analyte was detected at a level less than five times the detection limit. The RPD results may not provide reliable information on the variability of the analysis.

FRIEDMAN & BRUYA, INC. 1012 10th Avenue West seattle, WA 98119-2029 206) 285-8282

PS# 710159

10.30.9-SP

SAMPLE CHAIN OF CUSTODY

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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Jensen, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

November 12, 1997

DUPLICATE COPY

INVOICE #97ACU1112-2

Accounts Payable Alaskan Copper Works 628 South Hanford St. Seattle, WA 98134

RE: Project Metro Self Monitor, PO# M58927: Results of testing requested by Gerry Thompson for material submitted on October 30, 1997.

1 water sample analyzed for		
Chromium, Copper, Nickel, and Zinc	그들을 목걸한 보험 보이라면	
using Method 6010 @ \$65 per sample		\$ 65.00
Amount Due	***************************************	\$ 65.00

FEDERAL TAX ID #(b) (6)

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Jensen, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

November 12, 1997

Gerry Thompson, Project Manager Alaskan Copper Works 628 South Hanford St. Seattle, WA 98134

Dear Mr. Thompson:

Included are the results from the testing of material submitted on October 30, 1997 from your Metro Self Monitor, PO# M58927 project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Kurt Johnson Chemist

Enclosures ACU1112R.DOC